



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/659,900	09/13/2000	Jae-Hong Park	A33517	6037
21003	7590	04/19/2005	EXAMINER	
BAKER & BOTTS 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			MEW, KEVIN D	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/659,900	Applicant(s) PARK ET AL.	
	Examiner Kevin Mew	Art Unit 2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,11,15-18,22-25,29-31 and 35-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11,15-18,22-25,29-31 and 35-37 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 3-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/4/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Detailed Action***

***Response to Amendment***

1. Applicant's Remarks/Arguments filed on 10/4/2004 regarding claims 1, 3-8, 11, 15-18, 22-25, 29-31, 35-37 have been considered and are currently pending. Claims 2, 9-10, 12-14, 19-21, 26-28, 32-34 have been canceled by the Applicant.
2. Acknowledgement is made of the amended specification regarding the deficiencies cited in the drawings of the previous Office Action. The amended specification is acceptable and the objection to the drawings has been withdrawn.
3. Acknowledgement is made of the amended claims 3, 9, 12, 14, 19, 26, 32 regarding the claims objections cited in the previous Office Action. The amended claims are acceptable and the claim objections have been withdrawn.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art "Introduction to GSM" (XP-002199834) in view of Lupien et al. (US Patent 6,463,055), and in further view of Marjelund et al. (US Publication 2002/0071480).

Regarding claim 1, the admitted prior art discloses a method for processing a call in an asynchronous mobile communication system (**a method to establish a call connection over the radio interface in a GSM network**, see lines 1-3, section 7.4, paragraph 1, page 172), wherein an asynchronous mobile station (**mobile station**, section 7.4, paragraph 1, page 172) includes a call control (CC) entity (**call control or CM entity**, see line 5, section 7.4, paragraph 2, page 172), a mobility management (MM) entity (**MM connections**, see lines 9, paragraph 2, page 172) and a radio resource controller (RRC) (**BSC**, see line 6, paragraph 2, page 172); an asynchronous radio network includes a radio resource controller (RRC) (**BSC**, see line 6, paragraph 2, page 172), the method comprising the steps of:

a) setting up the call in case a calling call message is generated in the mobile station (**mobile-originated call setup**, see lines 11-12, section 7.4, paragraph 1, page 172);

b) establishing a channel between the asynchronous mobile station and the asynchronous radio network (**mobile station starts with the transmission of a channel request message**, see line 1, section 7.4, paragraph 2, page 172);

c) handling basic information for assigning a radio resource (**the necessary RR connections are established by the authentication request and response**, see lines 9-10, section 7.4, paragraph 2, page 172);

d) performing a cipher establishment (**the subsequent RR procedure sets the cipher mode service**, see lines 9-11, section 7.4, paragraph 2, page 172);

e) establishing the radio resource (**the necessary RR connections are established by the authentication procedure**, see lines 9-10, section 7.4, paragraph 2, page 172);;

f) performing a configuration for a service (**the mobile station transmits setup message indicating the type of service it requires from the CM entity**, see line 5, page 173, and line 1, page 174); and

g) transmitting a phone call stand-by message to a user (**assignment command is sent back to the mobile station**, see line 5, page 174).

The admitted prior art does not explicitly show that core network is synchronous. However, Lupien discloses an integrated radio communications network and method in which integrates an ANSI-41 circuit switched network (**synchronous core network**) and a GPRS packet data network (asynchronous network, see lines 26-31, col. 1 and lines 35-40, col. 3), including a mobile station that operates in both the ANSI-41 network and the GPRS network (see lines 38-40, col. 3) and an interworking GPRS base station controller that supports both ANSI-136 operations and GPRS operations (see lines 48-51, col. 3). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the switching core network of the admitted prior art with that of Lupien such that the switching core network supports both asynchronous and synchronous communications such as the switching

core network taught by Lupien. The motivation to do so is to enable mobile stations to access both the ANSI-41 voice/circuit-switched and GPRS packet data network services, and to optimally utilize the circuit-switched resources over the ANSI-41 network because simultaneous circuit switched voice and packet data services is then provided while connected through a circuit-switched connection to the Internet.

The combined system of the admitted prior art and Lupien does not explicitly show that step a) includes the steps of: a1) transmitting the calling call message generated in the CC entity of the asynchronous mobile station, to the RRC of the asynchronous mobile station; a2) requesting the RRC of the asynchronous radio network of a connection, through a common control channel (CCCH); and a3) transmitting a connection completion message and information of a dedicated control channel (DCCH), through the CCCH, to the asynchronous mobile station, after receiving the request of the connection.

However, Marjelund discloses sending a RRC connection message from the user equipment, which includes UE\_CAPABILITY parameter such as the maximum number of dedicated channels, during a connection request from the user equipment to the RNC device via the CCCH channel (see entire paragraphs 0030, 0031, 0033, 0036, 0046, 0058), and if a communication can be established, the network sends an access grant message to the terminal device (see paragraph 0012). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined system of the admitted prior art and Lupien with the teaching of Marjelund such that transmitting the calling call message generated in the CC entity of the asynchronous mobile station, to the RRC of the asynchronous mobile station; a2) requesting the RRC of the asynchronous radio network of a connection,

through a common control channel (CCCH); and a3) transmitting a connection completion message and information of a dedicated control channel (DCCH), through the CCCH, to the asynchronous mobile station, after receiving the request of the connection.

The motivation to do so is to use the CCCH channel to transmit the call connection request and response, and the user equipment capability parameters such as the maximum number of dedicated channels so that the network is notified of the functional capability of the user equipment as early as possible and all functions the network performs can be optimized in view of the knowledge of the features supported by the user equipment.

#### ***Response to Arguments***

5. Applicant's Remarks with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Allowable Subject Matter***

6. Claims 11, 15-17, 18, 22-24, 25, 29-30, 31, 35-37 are allowed.

7. Claims 3-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 3, the method as recited in claim 3, wherein the step a) includes the steps of: a1) transmitting the calling call message generated in the CC entity of the asynchronous mobile station, to the RRC of the asynchronous mobile station; a2) requesting the RRC of the

asynchronous radio network of a connection, through a common control channel (CCCH); and  
a3) transmitting a connection completion message and information of a dedicated control channel (DCCH), through the CCCH, to the asynchronous mobile station, after receiving the request of the connection.

Regarding claim 11, the step c) includes the steps of c1): at the synchronous core network, transmitting a handoff request message to the target asynchronous radio network; c2) at the target asynchronous radio network, analyzing and storing information about the source asynchronous radio network and the asynchronous mobile station, base on the handoff request message; c3) transmitting a handoff request acknowledgement message from the target asynchronous radio network to the synchronous core network, transmitting a handoff command message from the synchronous core network to the source asynchronous radio network, and transmitting a physical channel reconfiguration RRC message from the source asynchronous radio network to the asynchronous mobile station; c4) transmitting a message for informing that the mobile station is prepared for the handoff, from the asynchronous mobile station to the source asynchronous radio network; and c5) transmitting a handoff commenced message from the source asynchronous radio network to the synchronous core network.

Regarding claims 18, 31, the step c) includes the steps of: c1) at the synchronous core network, transmitting a handoff request message to the target Synchronous radio network; c2) at the target Synchronous radio network, analyzing and storing information about the source asynchronous radio network and the asynchronous mobile station, based on the handoff request message; c3) at the target Synchronous radio network, assigning sources to the asynchronous mobile station, thereby connecting to the call of the asynchronous mobile station; c4) at the



target Synchronous radio network, transmitting a null forward traffic channel frame to the asynchronous mobile station; c5) transmitting a handoff request acknowledgement message from the target Synchronous radio network to the synchronous core network, transmitting a handoff command message from the synchronous core network to the source asynchronous radio network, and transmitting an inter system handover request RRC message from the source asynchronous radio network to the asynchronous mobile station; c6) transmitting a message for informing that the mobile station is prepared for the handoff, from the asynchronous mobile station to the source asynchronous radio network; and c7) transmitting a handoff commenced message from the source asynchronous radio network to the synchronous core network.

Regarding claim 25, the step c) includes the steps of:

c1) at the synchronous core network, transmitting a handoff request message to the target asynchronous radio network;

c2) at the target asynchronous radio network, analyzing and storing information about the source synchronous radio network and the synchronous mobile station, base on the handoff request message;

c3) transmitting a handoff request acknowledgement message from the target asynchronous radio network to the synchronous core network, transmitting a handoff command message from the synchronous core network to the source synchronous radio network, and transmitting an extended handoff direction message or a general handoff direction message for requesting the handoff, from the source synchronous radio network to the synchronous mobile station;

c4) transmitting a message for informing that the mobile station is prepared for the handoff, from the synchronous mobile station to the source synchronous radio network; and

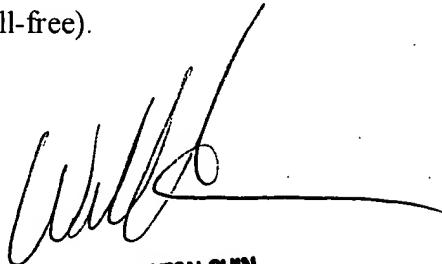
c5) transmitting a handoff commenced message from the source synchronous radio network to the synchronous core network.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**WELLINGTON CHIN**  
**SUPERVISORY PATENT EXAMINER**